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DEEPENING THE COMMUNITY

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Abstract

"Learning communities" are an attractive if hackneyed notion, especially in higher education contexts, because they offer the promise of students learning effectively within quasi-authentic environments. However, the constraints of time, curriculum and student profile in university subjects often mean these "communities" lack depth - everybody is an apprentice. A longitudinal design experiment was conducted in a large first-year university subject. The study included past students acting as legitimate members of a current community. They provided advice, support and offered mentoring-at-a-distance to current students. Thus, through mediated communication channels, they provided a tantalising glimpse of a deeper community, enriched by functional and reflective conversations. As a technique which is relatively easy to set up, the method described has immediate practical application.

Keywords

*communities of practice, design experiment, peer mentoring,
web inquiry project*

Introduction

Formal education is often concerned with efficiencies and reliable techniques for teaching and learning. This paper describes a research study that is framed in such a formal context - a subject taught to first-year university students using lectures, tutorials and which uses traditional assessment instruments such as an exam and a written assignment. But any formal environment necessarily brings into existence informal means for participants to learn - even in the absence of specific design.

In this case however, the pedagogic design, refined over a number of iterations had purpose: to initiate a dialogue between students and past-students. In the earlier years, the dialogue was effectively one-way, where the past-students anticipated questions and concerns. But in the latest invocation, to be presented in this paper, the dialogue was more direct and interactional: the participants conversed using an online forum. The study reported in this paper will reveal some of the rich conversation that ensued in the transitory "learning community" that sprang to life. The study has some implications for how such a community offers suggestions for pedagogic design (and perversely, non-design). Finally, the study confirms the suggestion by Lea (2005) that teachers and researchers in higher education should look on communities of practice, not as a framework to "bolt-on" to formal instruction, but as a heuristic device for change. Thus, as university teachers, we should encourage community building and participation in order to reveal the varied ways that different students come to learn, and in some cases, fail to learn.

Communities of Practice

In the past decade social approaches to student learning have gained prominence, at least in the research literature, if not in practice. As Lea (2005) notes, social approaches have appeared in different guises using labels such as "distributed learning", "constructivism" and "communities of practice". At the same time these labels have sometimes been appropriated for purposes at

considerable variance to their underlying principles. For example, one researcher of online education advocates positioning a tutor as an "old-timer" of a "learning community" who then uses deliberate spelling mistakes so that new students feel comfortable (Lea, 2005).

In their original work, Lave & Wenger (1991) investigated and introduced the term "communities of practice" as a way of understanding the nature of learning in a radically different way. Learning is less concerned with the reception of information from expert others (the traditional view) but as an active and social process. So learning can be conceived as increasingly skilled social participation in meaningful and authentic activity. Thus, as a framework, "communities of practice" is ill-suited to bolstering traditional pedagogy. Instead, it is more useful as a lens to envisage and consider different ways of learning.

The university subject which is the focus of the present study contains only shades of a community of practice, at least when concerned with the student population. The device employed, an online forum that connected past-students to present-students, was temporary in nature. It provided limited opportunities for interaction (i.e. only mediated communication) and the shared purpose (passing an assignment) was "constructed" as part of the formal subject. Furthermore, the past-students had already accomplished the task, and so in a sense, no longer shared the purpose with the current students in the same way. Nevertheless, it will be demonstrated that thinking of this activity as a "community of practice" was highly productive on a number of levels.

Design Experiments

Educational innovations that seek to exploit affordances offered by new technologies must deal with a complex set of variables and relationships that are often hidden until implementation is attempted. Design experiments (Brown, 1992; Collins, 1992) are one research framework used to deal with this complexity. diSessa & Cobb (2004; p. 80) describe this form of educational research as "... iterative, situated, and theory-based attempts simultaneously to understand and improve educational processes." Reeves (2003) advocates the use of design experiments (in contrast to positivist approaches) in the tertiary sector because they offer pragmatic solutions in a field (pedagogy in higher education) that is replete with technological challenges.

The present study conforms to a design experiment, but it is worthwhile to comment on the time-scale involved. Because the pedagogical refinement took place at the strategic level (an activity planned in advance and carried out over six weeks) and was situated in a university subject that runs only once each year, each iteration takes one year. The first instance of mediated mentoring took place in 2004 (using past-students from 2003). Thus, the refinement described in this study represents a third iteration of the design experiment. The accompanying table (Table 1) highlights some adjustments carried out over the last three years.

Year	Refinement
2004	cornerstone video descriptions
2005	assignment think-back forum
2006	past-students forum

Table 1 : Successive Refinements

The refinements build on (rather than replace) earlier work. So, for example, in the first year, past-students were interviewed and video excerpts were prepared and annotated for the following year. So, in 2004 there was no formal communication back from the current students to the older group (Ryan & Lloyd, 2003). By 2006, the video excerpts were accompanied by an online forum that engendered rich two-way communication between the 2006 cohort and past-students from each of the preceding years (i.e. 2003, 2004 and 2005).

Method

The data consists of one extended and mediated conversation that took place (and was logged) on an online learning system over the course of six weeks. The conversation was initiated by three

past-students Colin, Jill and Cathy (not their real names) who completed the subject three, two and one year(s) ago. Each of the past-students had performed well, receiving high grades for their assignments. As a group, the past-students varied in age, gender and course-specialisation. The present-students were self-drawn from a student body of approximately 900. Only a small fraction of the cohort participated directly in the conversation, although the forum was visited 2300 times over the course of six weeks.

This paper reports on the preliminary analysis of the data. The methods are drawn from the initial stages of Grounded Theory (Strauss & Corbin, 1998), namely open- and selective-coding. In open-coding, concepts are uncovered and named directly from the data. Properties and dimensions of the concepts are discovered by positioning data elements in relation to the uncovered concepts (Strauss & Corbin, 1998). In this case selective coding was employed on a conversational fragment to refine and help identify central categories.

Since this form of analysis, when conducted fully, is used to generate novel theory, the results are usually case-bound and speculative. As well the study only partially employed grounded methods, so the results do not have broad theoretical application. However, as a means of informing the next iteration of the design experiment, the methods are generally productive.

The Assignment

Learning Networks is a large subject with an open-ended assignment cast as a Web Inquiry Project, or WIP (Dodge & Molebash, 2003). Students, in groups of six, collaborate in order to investigate and publish a multi-faceted report. They refine a contemporary topic (e.g. "reality television") then search the web and academic databases to develop defensible positions. A cluster of group and individual reports form the basis to recommend change for an appropriate authority. Because this assignment is open-ended and collaborative, students often express anxiety in understanding the task and in dealing with the contingencies that are inevitable in collaborative inquiry. A number of techniques have been employed in the design of the task to cater for this anxiety. For example, the assignment is well-scaffolded: processes, time-lines, milestones and evaluation criteria are heavily documented (see Figure 1). However, it was recognised early on that there were limits to the effectiveness of documentation provided by academic staff.

Web Inquiry Project	
Expert Category	Some example specializations
historian	
natural scientist	biologist, statistician, chemist
social scientist	economist, psychologist
applied professional	architect, engineer, lawyer

In addition to an expert role, each member of a WIP must have an operational role. These roles contribute to the smooth and effective functioning of the team. Choosing these roles is provided, but each team must have:

- a **liaison** person (to represent the team when communicating with the instructor)
- a **recorder** (who keeps track of decisions using the team's shared workspace)
- a **scheduler** (who arranges meetings – especially if the team is not meeting in person)

A team may have any number of operational roles and each person may have more than one. However, each person has to have at least one operational role. The operational roles and their responsibilities are detailed on the RTTR form (submitted with the assignment). The choices and details for operational roles are:

Figure 1 : A fragment of the assignment specification

The Past-Students Discussion Forum

Just prior to the formal commencement of the assignment task, the present-students were directed to an online activity based around a structured interview of a past-student group. This "cornerstone interview" (See Figure 2) was a pedagogical device drawn from an earlier round of the teaching experiment. The past-students related their experiences in doing the assignment, offered advice and encouraged the present-students.

Learning Networks 2006

Students Review Their Collaborative Project



Interview with: (left to right) Caleb, April, M...
Interviewed by: Alison Bomgaas
Position: 4 members of an EDB006 Webquest group

Synopsis: Caleb, April, M... and N... were successful EDB006 Webquest groups in 2003. They discuss their expectations of group work and their experiences with groupwork, and offer advice for others. (Note: The task was called a Web Inquiry Project, but the task was...



Broadband Dial-up

1. Great Expectations

The team members talk about their reactions to the webquest assignment and the groupwork that ensued.

They describe their previous experiences with groupwork and their expectations for the groupwork task in EDB006.



2. Getting Together

The students describe how they came to form...

Figure 2 : A fragment of the cornerstone interview

Following the cornerstone interview activity, the discussion forum was constructed and presented to the present-students. The past-students were nominally paid (\$50) as tutors for the work that they did. They were not instructed in how to respond, but they quickly and naturally adopted normative behaviours in the ways they communicated with each other and the past students. The forum was framed with an introduction to the three past-students, with descriptions of when they had taken the subject alongside their using images. Links were provided to the full text of their assignments (See Figure 3). Current students were encouraged to participate, although no incentives were provided for them to do so. The academic teaching staff took no part in the conversations that emerged.

Past Student Review Forum



Please welcome and talk with, some past EDB006 students:

- C completed [his Webquest as a lawyer investigating Antarctica](#) in 2003.
- J completed [her Webquest as an economist investigating the human impact on marine populations of the Great Barrier Reef](#) in 2004.
- C completed [her Webquest as a statistician investigating alcohol and the youth](#) in 2005.



The assignment is now called a **Web Inquiry Project (WIP)**, but used to be called t essential elements of the task are the same including:

- broad topics
- refinement
- collaborative roles in small groups and
- web publishing.



Some bits are different including a different set of broad topics and some alternative ru and referencing). Present students might like to ask past students about:

- how they went about organising their groups
- what did and didn't work, etc

or another questions that are similar to interview questions.

Past Student Review Forum

Discuss issues arising from the "[Students Review...](#)" task or talk to some past students who have been in discussion.

Expand All
Collapse All
New Thread

+ [Questions from the Students ...](#) By [MERLINDA](#), on Thu 30 Mar 06, 5:29PM

+ [Re: Questions from the ...](#) By [C](#), on Sat 1 Apr 06, 5:13PM

+ [Re: Questions from the ...](#) By [ANGELA](#), on Sun 9 Apr 06, 5:26PM

+ [ABOUT C](#) By [C](#), on Sat 1 Apr 06, 5:19PM

+ [Correction...](#) By [C](#), on Tue 4 Apr 06, 10:48AM

+ [Re: ABOUT C](#) By [JOHANNA](#), on Sun 14 May 06, 1:56PM

+ [About C ...](#) By [C](#), on Sun 2 Apr 06, 6:07PM

Figure 3 : A fragment of the initial framing of the forum

Results

A partial analysis (approximately one third of the content, beginning with the first postings) of the forum was performed using open coding techniques. Evidence of the complexity of the dialogue between the students and past-student is evident in the 13 upper-level categories revealed in this preliminary coding (See Table 2).

helpful-start
task-anxiety
reassurance
advice-giving
advice-seeking
overcoming-virtuality
encouragement
shared-role
nature-of-learning-networks
nature-of-task
invitation
this-experience
inspiration

Table 2 : 13 Upper-level Categories

For example, the "shared-perspective" category included utterances from both past- and present-students such as these:

*... I agree with you [COWARD1]
 ... That's right in my view, Heidi. [COLIN]
 ... Thank you so much for your sound advice Jill, I am also a mature aged student [ELIZABETH1]
 ... I am also a mother and a mature age student ... [JENNY1]*

The participants were generally quick to identify and express a shared perspective, across and within the student groups. These utterances tended to accompany expressed acceptance of advice and thus demonstrated, at least on one level, the shared purpose that is an important aspect of a community of practice.

Not surprisingly (given their brief), the past students spent a considerable amount of effort in (what has been identified as) the central category of "advice-giving". Nine sub-categories (Table 3) were identified. These categories range from the strategic/motivational (e.g. "enjoyment") to the highly practical (e.g. "searching").

advice-giving:
group-join
topic-picking
refinement
enjoyment
strategic
share-sites
tracking
searching
task-management

Table 3 : Advice-giving Sub-categories

An example of the topic-picking category included this entry by Colin:

You will find this task much more enjoyable (and therefore easier!) if you keep your topic to something you find interesting [COLIN]

which was followed-up by Cathy:

Pick a topic you are comfortable working with ... refine it to something you may be able to relate to ... more importantly you are interested in [CATHY]

The past students normatively developed this practice of providing supporting advice. For example, in the "searching" category Jill explains:

as Colin said, once you figure out what phrases get you what you need, you can refine and re-google. [JILL]

In many cases the past-students provided an experiential rationale for the advice they offered. So Jill (categorised as "this-experience") relates:

We divided our tasks and had a dedicated "task-master" role whose responsibility it was to prod along progress and encourage members to meet group deadlines (via the group diary and also personal emails). [JILL]

Both the present- and past-students provided "reassurance" in response to "task-anxiety" as part of their participation:

... the WIP is going to be one of the hardest tasks I have ever come across and after reading this forum, it doesn't seem so daunting. [JENNY1]
Completed my Webquest (aka WIP) only last year and had a ball doing so - made new friends, learnt how to work cooperatively in a group AND submitted an online assignment for the first time....ever [CATHY]

Finally, it was interesting to observe the detail that the past-students provided in their strategic advice:

A few things come to mind: firstly I assume you will need a clear presentation of From there you might compare these with... and ascertain whether ... Alternatively, if it is not impinging on someone else's role, you could find ... Whichever direction you take, I can see merit in presenting ... If you read my expert report, you will see that ... I showed what policies and agreements existed, but then pointed to the large gap between word and action ... BUT... Here is the key: you are reporting. This means ... [COLIN]

Among the findings from this preliminary analysis, it is possible to isolate some that have particular application to pedagogical refinement, including:

- the natural growth of productive normative behaviours in this (tenuous and short-term) community, bound by a shared purpose of completing an assignment.
- the absence of conflict amongst this group of people, possibly explained by the transient nature of the community, the low-risk associated with participation and/or by the generation of swift trust (Meyerson, Weick, & Kramer, 1995) that is characteristic of initial online conversations.
- the degree to which the present-students were willing to attest to the effectiveness of the advice provided; and
- the detail to which past-students were able and willing to express their advice.

Discussion

One possible response, in preparation for the next cycle in this design experiment might suggest itself: prepare additional instructional documentation based on the **advice-giving** central category. Another response would be to acknowledge the effectiveness of the forum and make participation in it by current-students compulsory and assessable.

However both responses are flawed. Such documentation would strip away "subsidiary" utterances, such as those where students express task-anxiety or where the mentors reflect on the nature of the task. The first response, however, abstracts away an essential characteristic of the activity - it is a record of a fledgling community of practice. The text is a deeply authentic conversation and such an abstraction would immediately devalue importance of **participation** (Wenger, 1998) in the formation of these communities.

The second response is also inappropriate because it would construe another purpose, **assessment** - and one that could not be shared by the past-students. Since a shared purpose is a characteristic of communities of practice (Wenger, 1998), introducing assessment of contributions would probably change fundamentally the nature of the communication and transform it into yet another formal task, alongside other requirements such as the exam.

So, an alternative approach suggests itself: simply reconvene the conversation each year. This has the added advantage that past-students in subsequent years may retain and employ vital insights that they gained as student-participants in earlier years. Of course, it relies on similar, constructive conversations taking place. But placing trust in community participation is generally not misplaced, especially if the past-students are selected carefully. And while it is possible that past-students give the "wrong" advice, or that their participation is uneven, these conditions can be generally understood by participants.

The revealed categories provide a measure of the critical variables perceived by the relatively unfiltered students-as-participants. And because the past-students are interested, reflective actors, the advice they provide has a particular telling authenticity. In a very real sense, these actors offer a more valuable insight into the enacted pedagogical design than the academic designer of the subject! The design task then, is to refine those parts where pedagogical intervention is likely to effectively prepare students for the assignment task. Of course, as the rich student-mentor dialogue has demonstrated, there are some issues that are best left to the extended "community" that the technology affords.

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